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ABSTRACT

Perceived problems of elementary and secondary student teachers encountered during the student teaching sequence are measured and analyzed. In addition, perceptions of the adequacy of preservice training to meet these problems are elicited. Four hypotheses are tested in the investigation: (1) discipline would rank as the number one problem for all categories of student teachers; (2) distribution of student teachers by sex and teaching level would be approximately equal; (3) distribution by sex and size of community would be comparable; and (4) distribution by sex and enrollment of school would also be comparable. Development of the questionnaire is discussed, and a review of the pertinent literature is presented. Analyses based on intercorrelations of questionnaire data and a comparison of demographic groups on questionnaire scales are summarized. On an absolute basis, ratings of problems were relatively low. The highest problem rating (student characteristics and behavior) rated "occasional" to "frequent minor difficulty." Preparation was judged more negatively with medial rating near the "somewhat prepared/somewhat unprepared" level. Data also indicated that more women than men chose to teach at lower grade levels, and that, consequently, more of the females are in smaller schools than larger schools. It also appeared that the majority of the student teachers are student teaching in relatively small communities, but that job openings may be in urban areas. (HJB)

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Experiences of Student Teachers and Attitudes Toward College Preparation

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Introduction:

Foundations for educational changes should be obtained from relevant educational research. This study was conducted because of a continuing desire to improve prior instruction and experiences before student teaching. In many teacher training institutions around the country, for too long it has been "business as usual." Courses of study have been established in colleges of education by professors of education, many of whom have not been actively involved in public school education for many years. Some have not even visited public schools for a long period of time and therefore, oftentimes the material taught or the experiences planned for pre-student teaching has not met the needs of the students in preparation

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for student teaching.

The Purpose:

The major purpose of this study was to assess the perceptions of the elementary and secondary student teachers concerning the major problems encountered during student teaching. A secondary purpose of the study was to examine the responses of the student teachers concerning their perceptions of the adequacy of preparation gained during college course work to meet the problems successfully. A third desired outcome of the research was to develop a research instrument that could be used for continued use in follow-up studies.

The following hypotheses were tested: (1) In the degree to which problems could be identified as major, it was believed that discipline would rank as the number one problem for all categories of student teachers, male and female and elementary and secondary. (2) It was felt that the distribution of student teachers by sex and teaching level would be approximately equal. (3) It also was hypothesized that the distribution of student teachers by sex and size of community would be fairly comparable and (4) that their distribution by sex and enrollment of school would be comparable also.

Methods and Procedures:

Subjects for the study were 153 student teachers at Southern Illinois University-Carbondale who were student teaching in the spring semester, 1977. The population included student teachers from rural and urban centers; male and female; white and black students; and from elementary, junior high and secondary levels of teaching. They also were student teaching in a variety of localities, ranging from rural to suburban and inner-city schools.

A questionnaire devised by the researchers of this study as a result of open-ended interviews with a previous group of student teachers was administered to the participating student teachers. The original questionnaire included 80 problems to which the student teachers recorded on a Likert scale, their evaluation of the level of difficulty of each problem. Subsequently, they also recorded on an answer sheet their judgment of the adequacy of the preparation received in previous course work in college to meet the same problems. After the data were analyzed, a revised questionnaire was prepared which contained only 40 statements. The original 80 problems had been divided into 4 subscales of 20 statements each and then were arranged on a random basis. The four categories or subtests included; 1) Student Characteristics and Behavior related, 2) Adjustment to Work Activities and Relationships, 3) Resource and Materials-related Problems, and 4) Personal Adjustment

Problems. The revised scale retained the original 4 categories with only 10 statements in each.

Review of Pertinent Literature:

A similar and significant study to determine the major areas of difficulties experienced by student teachers was conducted by Campbell and Williamson. A total of fourteen problems was submitted to secondary student teachers to discover the problems they faced during student teaching. Difficulties with cooperating teachers was found to be one of the areas that presented the most stress for the student teachers. The chief categories of difficulty lay in a wide difference in expectation levels for students; a marked difference in commitment to teaching methodology; insistence of cooperating teachers that classes be taught "exactly as I usually teach them...." and the cooperating teacher was perceived as unwilling to allow the student teacher to take control of the class.

Appleberry in her 1976 study found that after completion of student teaching, some students felt that too much responsibility had been given too soon which is a similar finding to Campbell and Williamson's study. Other problems found by Appleberry included learning the skills of planning for time schedules and pacing of lessons. Davis has agreed with these findings when he stated that "student teachers are bound within the framework of the teaching styles and philosophies of their cooperating teacher, their department head, their supervisor and the school administration." In other words, student teachers

often have difficulty feeling like a teacher after 17 years of being a student.

Another significant study done by Chui showed that 80% of 3000 prospective students indicated that discipline gave students the greatest concern or worry as they planned for their first teaching position.

A. Measurement of Perceived Difficulty and College Preparation

As was indicated earlier, the item content for the scales used in the study was based on descriptions by student teachers of problems encountered in student teaching situations. These statements, derived from open-ended interviews in an earlier study, were listed and an attempt made by the authors to compare them for similarity of content. Inspection suggested that the statements seemed to group into 4 classes of problems: 1) statements which describe problems which focused on students, (behavior, discipline, motivation, etc.); 2) statements which described an aspect of teaching having to do with the student teachers' own ability to plan for and conduct adequately, teaching situations (subject matter knowledge, pacing, lectures, preparing lesson plans, etc.); 3) Statements which described problems with resource materials and equipment needed for teaching (outdated texts, enrichment materials, financial shortages, etc.); and 4) statements which described problems of the student teacher in making a personal adjustment to the requirements of student teaching (scheduling personal affairs and finances, managing personal time, adjustment to an unfamiliar community or to racial problems, etc.)

Although there was some overlap in content between the various four categories, the authors felt the classification adequate for a pilot investigation. Initially, each of the four scales consisted of 20 items. On the experimental instrument itself, the 80 items resulting were presented in random order with a Lickert response format. Each student actually rated each item twice, indicating on a 5 point scale the degree to which he encountered difficulty of this type in the student teaching situation and the degree to which he felt his college training had prepared him to cope with the problem. Such a format yielded 160 item responses, allowing 2 scores in each of the 4 suggested problem areas plus a total score for each of the two rating tasks. These separate scores are depicted in Table I below.

Table I

Scales of the Student Questionnaire

Section A	Section B
Degree of Difficulty Encountered in Problem Area	Judged Adequacy of College Preparation in Coping with Problem Area
1. Student Characteristics and Behavior Related	
2. Adjustment to Work Requirement	
3. Resource or Materials Related	
4. Personal Adjustment	
5. Total Score	

The initial phase of investigation focused on analysis of the questionnaire itself. No precedent for such an approach has appeared in the literature, so it was felt that refinement of the basic measuring tools of the research might have long-term payoff.

Several goals of analysis were established consistent with traditional measurement considerations. They are summarized below.

1) The authors felt an instrument of 160 items was too long. A shorter questionnaire might be possible that would adequately measure the variables of interest without great loss. Arbitrarily, a goal of 10 items per scale was established which would reduce the 160 items to 80.
2) Items which discriminated, as measured by item variance, were preferred.
3) Homogeniety of items within each scale and each section of the instrument were desired (part-whole correlations between each item and its corresponding sub-scale and section of the questionnaire).
4) Item and scale reliability were desired (The contribution of each item to the internal-consistency reliability of each scale and each total scale was assessed).
5) Finally, since each item was scored twice, it was felt a response set for similar responses could exist.

In order to reduce this influence, items which had low correlations between responses on the "problems" section and the "preparation" section were preferred.

The above item selection criteria were combined into a "weighted rating" scheme for each item and a step-wise rationale developed to allow items to be dropped from each scale, one at a time, until the desired 80 items remained. This rationale is described below in outline form.

Table II depicts the measure of each item characteristic used for each item selection criterion and the relative weight assigned to each measure in item selection.

Table II

Item Selection Criteria, Measures used, and Relative Weights

Criteria	Measure Used	Relative Weight Part 1	Part 2
Discrimination	Item standard deviation	1	1
Homogeniety within scales	Part/Whole Correlation with Scale Score	½	½
	Part/Whole Correlation with Total Score	½	½
Reliability	Item Contribution to Sub-scale Reliability*	1	1
	Item Contribution to Total-scale Reliability*	½	½
Interdependence between Sections	Item Correlation Part 1 with Part 2	-1	

*Internal Consistency reliability, Kuder-Richardson method.

The procedure actually followed called for each of the measures to be "standardized" before the relative weights were considered. The item with the smallest weighted rating seen (sum of weight times standardized measure across the 11 measures indicated) was dropped at each step and the procedure then repeated with remaining items.

It should be noted that each of the measures indicated is strongly influenced by item variance, suggesting that the single most influential factor considered would tend to be item variability. Further, the weights assigned were somewhat arbitrary, reflecting simply the authors' judgment as to the "value" of each item characteristic. Finally, it is recognized that standardizing some of the measures is not strictly "kosher." It was felt, however, that some scaling of the measures was needed in order for the weights to be used meaningfully.

As a parenthetical comment, factor analysis could have been used, possibly more effectively, as a rationale for both item selection and definition of sub-scales. In fact, such an approach may be pursued as an independent inquiry. The procedure described, however, seemed to produce adequate results given the initial goals, and was accomplished with much less time and computer use. As a technique of item analysis, the authors believe it to be unique and believe the type of approach used to have been sufficiently successful to merit further investigation.

Table III below summarized the characteristics of the scales both before and after the item selection process.

Table III

Scale Characteristics Before and After Item Selection

		Before Selection (20 items per scale)			After Selection (10 items per scale)		
		σ	Internal Consistency* Reliability	Split Half** Reliability	σ	Internal Consistency* Reliability	Split Half** Reliability
PART I	Scale 1	12.7	.89	.90	7.7	.84	.81
	Scale 2	9.9	.83	.88	6.2	.76	.77
	Scale 3	10.4	.84	.88	6.2	.75	.77
	Scale 4	11.9	.87	.87	7.0	.79	.75
	Total	39.9	.95	.97	23.2	.92	.93
PART II	Scale 1	17.5	.95	.97	8.9	.91	.92
	Scale 2	16.3	.93	.95	8.3	.88	.91
	Scale 3	15.9	.94	.94	8.3	.89	.92
	Scale 4	18.1	.95	.96	9.8	.92	.90
	Total	65.3	.98	.99	33.5	.97	.98

*Kuder-Richardson estimate
**Odd-Even Reliability, Boosted with Spearman-Browne Prophecy Formula

Data in Table III suggest that item selection was accomplished without a major sacrifice in scale reliability or scale discrimination. Inspection of the patterns of intercorrelations between scales did not suggest any major changes in the interrelationships between the variables. A questionnaire with 80 items with essentially the same characteristics as the original 160 would seem to be possible.

For the purposes of the remainder of the analyses, results are based on scores obtained from the reduced item pool, i.e., each score is based on those items selected through the item analysis phase of the study.

B. Demographic Data and Analyses

Data were gathered describing a number of characteristics of each student teaching situation. These included: 1) the sex of the student teacher, 2) the subject matter area in which the student taught, (13 areas were found to be represented), 3) the population of the community in which the teaching was done (4 categories), 4) the proximity in miles from the school to the home of the student teacher (4 categories), 5) the enrollment of the school building in which the student teacher taught (4 categories) and 6) the level at which the student teacher was teaching (3 categories).

Each of these demographic and sex variables provided a basis for comparison for each of the questionnaire variables

and a means of examining the distribution of student teachers as to type of teaching situation.

Chi square analyses were conducted to allow the distribution of student teachers by sex in each of the teaching situations to be examined. These are summarized below.

Table IV-A

Distribution of Student Teachers by Sex and Teaching Level

	Male		Female	
Level of Teaching	N	Percent	N	Percent
Elementary	7	4.7	40	26.8
Junior High	18	12.1	12	8.1
Secondary	35	23.5	37	24.8
Total	60	40.3	89	59.7

The chi square (19.32) comparing the distribution of student teachers by sex across levels is significant beyond the .001 level. The data reflect clearly the traditional pattern of sex roles in the teaching profession. Clearly, more females chose teaching at the lower levels of the educational system.

Table IV-B

Distribution of Student Teachers by Sex and Student Teaching Area

Area	Male N	Male Percent	Female N	Female Percent
Social Studies	7	6.7	2	1.9
Industrial Arts	2	1.9	1	1.0
Physical Education	3	7.6	1	1.0
Art	2	1.9	5	4.8
Music	1	1.0	6	5.7
Math	6	3.8	1	1.0
Special Education	2	1.9	11	10.5
Language & Communication	11	10.5	11	10.5
Agriculture Education	2	1.9	1	1.0
Business Education	3	2.9	5	4.8
Health	3	2.9	1	1.0
Economics	1	1.0	6	5.7
Science	6	5.7	2	1.9
Total	52	49.5	53	50.5

The low frequencies observed suggest that a chi-Square analysis could be misleading. However, the data are consistent with traditional teaching patterns. The predominance of women in special education and the larger proportion of men in mathematics and science, for example, reflect long standing national trends.

Table IV-C

Distribution of Student Teachers by Sex and Size of Community

Size of Community	Male N	Male Percent	Female N	Female Percent
5,000 & below	7	4.9	13	9.0
5,000-10,000	18	12.5	29	20.1
10,000-15,000	13	9.0	12	8.3
over 15,000	22	15.3	30	20.8
Total	60	41.7	84	58.3

The chi-Square analysis of these data (χ^2=1.69) is non-significant, suggesting a comparable distribution for males and females across the size of communities represented. It is of note that most are gaining student teaching experiences in relatively small communities (63% of males and 64% of females). The Southern Illinois area is composed predominately of small communities. To the degree that schools in large communities present different types of problems to teachers, those being trained in small communities may not be receiving adequate preparation for "big-city" teaching. Since the predominance of teaching jobs are in urban settings, some effort to train more student teachers in urban community settings might be appropriate.

Table IV-D

Distribution of Student Teachers by Sex and Enrollment of School

	Males		Females	
	N	Percent	N	Percent
400 & less	8	5.5	35	24.1
400-600	13	9.0	15	10.3
over 600	40	27.6	34	23.4
Total	61	42.1	84	57.9

The chi-Square distribution of frequencies (14.29) is statistically significant at the .001 level for 2 degrees of freedom. The significance is largely due to a much larger percentage of females in smaller schools. The authors feel this trend is probably attributable to a larger proportion of women than men in elementary schools which tend to have smaller enrollments.

Table IV-E

Distribution of Student Teachers by Sex and Proximity of School to Home

	Males		Females	
	N	Percent	N	Percent
0-100 miles	45	30.8	79	54.1
100 miles & over	16	11.0	6	4.1
Total	61	41.8	85	58.2

This chi-square analysis (x^2=8.755, Yatescorrection applied) is significant at the .01 level. A larger percentage of men is being assigned student teaching outside their home area than are women. Clearly most, however, (almost 85%) are being assigned to areas within 100 miles of their home. Perhaps the difference between the sexes is due to the subject areas men choose for teaching and the necessity to extend into a larger geographic area to find teaching opportunities. The larger proportion of women at elementary teaching levels might provide greater opportunity for placement at a nearby school.

In summary, the demographic analyses suggest a number of trends reflecting traditional sex roles in teaching.

The data support a conclusion that women tend to choose elementary teaching roles in greater percentage than men and both tend to choose subject matter areas consistent with traditional sex roles. None of the data is inconsistent with these trends and statistical significance, when observed, can be accounted for by appealing to this rationale.

C. Questionnaire Data and Analyses

Analyses based on intercorrelations of questionnaire data and a comparison of demographic groups on questionnaire scales are presented in this section.

Table V-A

Interactions, Correlations, Means, Standard Deviations on Questionnaire Scales

Part I — Problem Difficulty					Part II — Preparation				
Scale 1	Scale 2	Scale 3	Scale 4	Total	Scale 1	Scale 2	Scale 3	Scale 4	Total
1.00	.67	.54	.64	.85	- .38	- .34	- .29	- .38	- .37
.67	1.00	.59	.71	.86	- .33	- .39	- .27	- .35	- .35
.54	.59	1.00	.68	.81	- .20	- .29	- .26	- .26	- .27
.64	.71	.68	1.00	.89	- .25	- .33	- .21	- .31	- .29
.85	.86	.81	.89	1.00	- .35	- .40	- .30	- .39	- .38
- .38	- .34	- .20	- .25	- .35	1.00	.86	.83	.87	.93
- .34	- .39	- .29	- .33	- .40	.86	1.00	.86	.88	.95
- .29	- .28	- .26	- .21	- .30	.83	.86	1.00	.88	.94
- .39	- .35	- .26	- .31	- .38	.87	.88	.88	1.00	.96
- .37	- .35	- .27	- .29	- .38	.94	.94	.94	.96	1.00
$\bar{x}$ 24.3	19.2	18.7	20.0	62.1	30.2	33.4	32.6	29.7	105.7
σ 7.7	6.2	6.2	7.0	23.2	8.8	8.3	8.3	9.8	33.5

The scoring on these scales was such that scores on each scale could range from 10 to 50 (40 to 200 in total scores.) A low score on "Difficulty" scales implies a small amount of difficulty encountered in the area represented by the scale. A low score on "Preparation" scales reflects a judgment that preparation for coping in the area represented by the scale was poor.

Data in Table V-A suggest a number of trends perhaps worthy of note.

1) On an "absolute" basis, ratings of problems were relatively low. An average item rating of 1.55 for all 40 items on this scale places responses generally at the level of rating problem areas of somewhat less than "Occasional Minor Difficulty". It is of note that the scale receiving the highest problem difficulty rating was in the area representing student characteristics and behavior. The average item response for this scale (2.4) suggests a difficulty level between "Occasional Minor Difficulty" and "Frequent Minor Difficulty". The authors had expected student behavior to be a major contribution to difficulties reported.

2) Again, on an "absolute" basis, preparation is judged somewhat more negatively. The average rating of preparation was 2.6, somewhat below the medial rating of "Somewhat Prepared and Somewhat Unprepared." Preparation was perceived on the average to have been best in coping

with resource and materials problems (average rating 3.3, just above a medial response level) and worst for coping with personal adjustment (average rating of 2.9, just below a medial rating.) It seems that those aspects of preparation dealing with the techniques and procedures of teaching (work activities and resources) are rated as more adequate than those focused on personal and social coping.

3) There is a consistent pattern of difficulty ratings to correlate negatively with preparation ratings. There are no reversals of this trend. It is a pattern one would expect intuitively from such variables. On the other hand, item selection procedures might have tended to enhance slightly such a pattern.

4) Intercorrelations between the subscales on each of the two sections of the test tend to be positive and high (ranging from a .54 to .71 for Difficulty scales and from .83 to .88 on the Preparation scales.) The high degree of overlap between the scales on each section of the instrument is not surprising for scales of this type. The especially high intercorrelation on the Preparation scales may reflect a measurement bias akin to "halo-error" in which students are seemingly not separating the dimensions, but are rather responding in an overall fashion. Factor analysis would allow the matter to be explored more completely. The authors tend to feel the scales of the Difficulty section may be interpreted separately (maximum

of 50% overlap) but feel the Preparation items should probably not be separately interpreted without further analysis (minimum 69% overlap.)

Table V-B represents a summary of results of a number of analyses of variance of the questionnaire scales across the several demographic variables. Since most were non-significant, detailed results are not depicted. As suggested above, only the total score for the Preparation section is represented since it was felt there was inadequate separation on the scales to justify separate interpretation for each.

Table V-B

Summary of Results (F-Ratio) of Analyses of Variance On Questionnaire Scales Compared Across Sex and Demographic Groupings

Independent Variable	No. Groups	Difficulty Scale 1	2	3	4	Total	Preparation Total
Sex	2	.58	.07	1.18	.01	.33	.82
Community Size	4	1.98	.54	1.87	.59	1.53	.55
School Size	4	1.48	1.52	3.01*	1.07	1.69	.37
Distance from Home	4	.24	.43	1.77	.06	.53	.47
Teaching Level	3	.23	2.10	.11	.05	.21	.22
Area of Teaching	13	.92	1.65	.67	.70	.81	2.64**

* ($p < .05$) ** ($p < .01$)

T several analyses summarized above produced patterns of results only slightly more statistically significant than one would expect by chance. Although a number of the analyses approached statistical significance ($p \approx .10$), only two obtained.

Examination of the group means for the two statistically significant situations suggested the following:

a) Statistical significance in difficulty ratings for the resource and material scale when those teaching in different size schools are compared is attributable to slightly less than average difficulty in schools with enrollment sizes between 200 and 400 (average response rating 1.6.) and slightly more than average difficulty (average response rating 2.0) in schools over 500. It should be noted that even the highest average rating placed the response rating average in the "Occasional Minor Difficulty" category. It is felt that the practical meaning of the statistical significance is obscure. Few would weigh heavily the practical significance of the small mean differences observed.

b) Regarding ratings of preparation, the 13 areas of teaching groups may be classified as to where the average response ratings fell into 3 classes. Only mathematics students rated their preparation below the "Mostly Unprepared" level (average item rating 1.4.) The largest number of groups fell between "Mostly Unprepared" and "Somewhat Prepared" (Social Studies-2.1; Science-2.3; Music-2.4; Special Education-2.5; Home Economics-2.8; and Language and communication-2.9). Five areas were found with average responses on preparation

between "Somewhat Prepared" and "Mostly Prepared" (Physical Education-3.); Business Education-3.1; Health-3.2; Industrial Arts-3.2; and Agriculture Education-3.3) It might be pointed out that almost identical results were found for each of the 4 subscales of the Preparation section.

The range of average ratings on the Preparation section seems sufficient to at least be suggestive of real differences in a practical sense. Follow-up investigations, possibly by interviews, might suggest more clearly the contributions to the differences. The data may suggest additional attention to special teaching or coping methods in certain specialty areas (e.g., math, social science.) At the least, the predominance of ratings on the negative side of the preparation scales suggest some general judgments of inadequate training as students perceive it.

D. Conclusions

It was established that the student teachers experienced the most difficulty with the problems of subscale 1) Student Characteristics and Behavior. Of the 11 items rated most difficult, 8 items fell within the first subscale. Dealing with student discipline problems that interfered with teaching ranked as most difficult, which was the first hypothesis of this research study.

However, in the perceived lack of preparation for coping with problems of student teaching, the student teachers felt equally less prepared in subscale 2) Adjustment to Work Activities and Relationships and 3) Resource and Materials-related Problems.

The study indicated that more women than men chose teaching at the lower grade levels. This, then, accounts for the fact that more of the females were in smaller schools because each school system probably has one high school with a large enrollment having a number of "feeder" elementary schools with small enrollments.

As a result of this research, it appears that the majority of these student teachers are student teaching in relatively small communities but that job openings may be in urban areas. It may be logical to assume that this experience be enlarged to include a variety of student teaching placements.

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